



Gateway South 500kV Transmission Project
Revised Right-of-Way Application

SUBMITTED BY:



SUBMITTED TO:



Wyoming State Office

DECEMBER 2008

December 17, 2008

United States Department of Interior
Bureau of Land Management, Wyoming State Office
5353 Yellowstone Road
P.O. Box 1828
Cheyenne, Wyoming 82003
Attention: Mr. Walt George

RE: PacifiCorp (doing business as PacifiCorp Energy, Rocky Mountain Power, and Pacific Power)
Energy Gateway South 500kV Transmission Project
Revised Standard Form 299 Right-of-Way Application

Dear Mr. George:

PacifiCorp is submitting for your consideration and action a revised Standard Form 299 (SF299) application for the company's proposed Energy Gateway South 500 kilovolt transmission line, which amends the original application filed by PacifiCorp on November 30, 2007. This revision is submitted to identify the company's proposed transmission line corridor and corridor alternatives currently being considered for detailed analysis, and to update the project description. More specifically, changes from the original SF299 application reflected in this revision include:

- Revised study area map identifying transmission line segments, the company's proposed corridor, and a refined set of corridor alternatives
- Description of project structures and facilities
- Updated physical specifications
- A more developed statement of the company's purpose and need for the project
- Updated list of authorizations and pending applications filed for similar projects that may provide additional relevant information to the Bureau of Land Management

A revised draft Plan of Development to include a more detailed project description will follow. We are also providing a digital shapefile of the proposed and alternative routes currently being considered.

Please do not hesitate to contact me if you have any questions. I may be contacted by telephone at (801) 220-2735 or (801) 647-7116 or by electronic mail at Brandon.Smith@PacifiCorp.com.

Sincerely,



Brandon Smith
Project Manager

Enclosures

STANDARD FORM 299 (6/99)
 Prescribed by DOI/USDA/DOT
 P.L. 96-487 and Federal
 Register Notice 5-22-95

**APPLICATION FOR TRANSPORTATION AND
 UTILITY SYSTEMS AND FACILITIES
 ON FEDERAL LANDS**

FORM APPROVED
 OMB NO. 0596-0082

FOR AGENCY USE ONLY

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

Application Number
 To be assigned

Date Filed
 December 17, 2008

1. Name and address of applicant (*include zip code*)

PacifiCorp (DBA Rocky Mountain Power, PacifiCorp Energy, and Pacific Power)
 1407 W. North Temple
 Salt Lake City, UT 84116

2. Name, title, and address of authorized agent if different from item 1 (*include zip code*)

Same as 1

3. Telephone (area code)

Applicant
 (801) 220-4386

Authorized Agent
 Ted Williams, ROW Agent

4. As applicant are you? (*check one*)

- a. Individual
 b. Corporation*
 c. Partnership/Association*
 d. State Government/State Agency
 e. Local Government
 f. Federal Agency

* If checked, complete supplemental page

5. Specify what application is for: (*check one*)

- a. New authorization
 b. Renewing existing authorization No.
 c. Amend existing authorization No.
 d. Assign existing authorization No.
 e. Existing use for which no authorization has been received *
 f. Other*

* If checked, provide details under item 7

6. If an individual, or partnership are you a citizen(s) of the United States? Yes No

7. Project description (describe in detail): (a) Type of system or facility, (*e.g., canal, pipeline, road*); (b) related structures and facilities; (c) physical specifications (*Length, width, grading, etc.*); (d) term of years needed; (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (*Attach additional sheets, if additional space is needed.*)

Revised from November 2007 submittal.

See Attachment A

8. Attach a map covering area and show location of project proposal – See Attachment 1

9. State or Local government approval: Attached Applied for/in progress Not Required

10. Nonreturnable application fee: Attached Not required

11. Does project cross international boundary or affect international waterways? Yes No (*if "yes," indicate on map*)

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

See Attachment A

13a. Describe other reasonable alternative routes and modes considered.

See Attachment A

b. Why were these alternatives not selected?

See Attachment A

c. Give explanation as to why it is necessary to cross Federal Lands.

See Attachment A

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (*Specify number, date, code, or name*)

See Attachment A

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

See Attachment A

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

See Attachment A

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

See Attachment A

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

See Attachment A

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

See Attachment A

20. Name all the Department(s)/Agency(ies) where this application is being filed.

Bureau of Land Management, Wyoming State Office

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Brandon Smith

Date

12/17/08

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

**GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS**

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.
6. Improved right-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.
7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

Department of Agriculture
Regional Forester, Forest Service (USFS)
Federal Office Building,
P.O. Box 21628
Juneau, Alaska 99802-1628
Telephone: (907) 586-7847 (or a local Forest Service Office)

Department of the Interior
Bureau of Indian Affairs (BIA)
Juneau Area Office
Federal Building Annex
9109 Mendenhall Mall Road, Suite 5
Juneau, Alaska 99802
Telephone: (907) 586-7177

Department of the Interior
Bureau of Land Management
222 West 7th Avenue
P.O. Box 13
Anchorage, Alaska 99513-7599
Telephone: (907) 271-5477 (or a local BLM Office)

<p>U.S. Fish & Wildlife Service (FWS) Office of the Regional Director 1011 East Tudor Road Anchorage, Alaska 99503 Telephone: (907) 786-3440</p>	<p>National Park Service (NPA) Alaska Regional Office, 2225 Gambell St., Rm. 107 Anchorage, Alaska 99502-2892 Telephone: (907) 786-3440</p>
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Note - Filings with any Interior agency may be filed with any office noted above or with the Office of the Secretary of the Interior, Regional Environmental Office, P.O. Box 120, 1675 C Street, Anchorage, Alaska 9513.

Department of Transportation
Federal Aviation Administration
Alaska Region AAL-4, 222 West 7th Ave., Box 14
Anchorage, Alaska 99513-7587
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS

(Items not listed are self-explanatory)

- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8 Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 9, 10, and 12 The responsible agency will provide additional instructions.
- 13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
- 14 The responsible agency will provide instructions.
- 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- 16 through 19 Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certification for the use of Federal lands. The Federal agencies use this information to evaluate the applicant's proposal. The public is obligated to submit this form if they wish to obtain permission to use Federal lands.

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
	ATTACHED	FILED*
I - PRIVATE CORPORATIONS		
a. Articles of Incorporation	<input type="checkbox"/>	<input type="checkbox"/>
b. Corporation Bylaws	<input type="checkbox"/>	<input type="checkbox"/>
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State	<input type="checkbox"/>	<input type="checkbox"/>
c. Copy of resolution authorizing filing	<input type="checkbox"/>	<input type="checkbox"/>
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input type="checkbox"/>	<input type="checkbox"/>
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.	<input type="checkbox"/>	<input type="checkbox"/>
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input type="checkbox"/>	<input type="checkbox"/>
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Proof of organization	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Copy of Bylaws	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Copy of resolution authorizing filing	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. If application is for an oil or gas pipeline, provide information required by item "I-f" and "I-g" above.	<input type="checkbox"/>	<input type="checkbox"/>
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	<input type="checkbox"/>	<input type="checkbox"/>
b. If one partner is authorized to sign, resolution authorizing action is	<input type="checkbox"/>	<input type="checkbox"/>
c. Name and address of each participant, partner, association, or other	<input type="checkbox"/>	<input type="checkbox"/>
d. If application is for an oil or gas pipeline, provide information required by item "I-f" and "I-g" above.	<input type="checkbox"/>	<input type="checkbox"/>

* If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information (e.g., number, date, code, name). If not on file or current, attach the requested information.

NOTICE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082.

This information is needed by the Forest Service to evaluate the requests to use National Forest System lands and manage those lands to protect natural resources, administer the use, and ensure public health and safety. This information is required to obtain or retain a benefit. The authority for that requirement is provided by the Organic Act of 1897 and the Federal Land Policy and Management Act of 1976, which authorize the secretary of Agriculture to promulgate rules and regulations for authorizing and managing National Forest System lands. These statutes, along with the Term Permit Act, National Forest Ski Area Permit Act, Granger-Thye Act, Mineral Leasing Act, Alaska Term Permit Act, Act of September 3, 1954, Wilderness Act, National Forest Roads and Trails Act, Act of November 16, 1973, Archeological Resources Protection Act, and Alaska National Interest Lands Conservation Act, authorize the Secretary of Agriculture to issue authorizations or the use and occupancy of National Forest System lands. The Secretary of Agriculture's regulations at 36 CFR Part 251, Subpart B, establish procedures for issuing those authorizations.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.

Public reporting burden for this collection of information is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

ENERGY GATEWAY SOUTH TRANSMISSION PROJECT

Revised Standard Form 299 Right-of-Way Application Attachment A

Revised from November 2007 Submittal

Submitted to:

**Bureau of Land Management
Wyoming State Office
5353 Yellowstone Road
Cheyenne, Wyoming 82003**

Submitted by:

PacifiCorp (DBA Rocky Mountain Power, PacifiCorp Energy, and Pacific Power)

December 2008

Attachment presents information requested in Standard Form 299.

- 7) Project description (*describe in detail*): (a) type of system or facility (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction.**

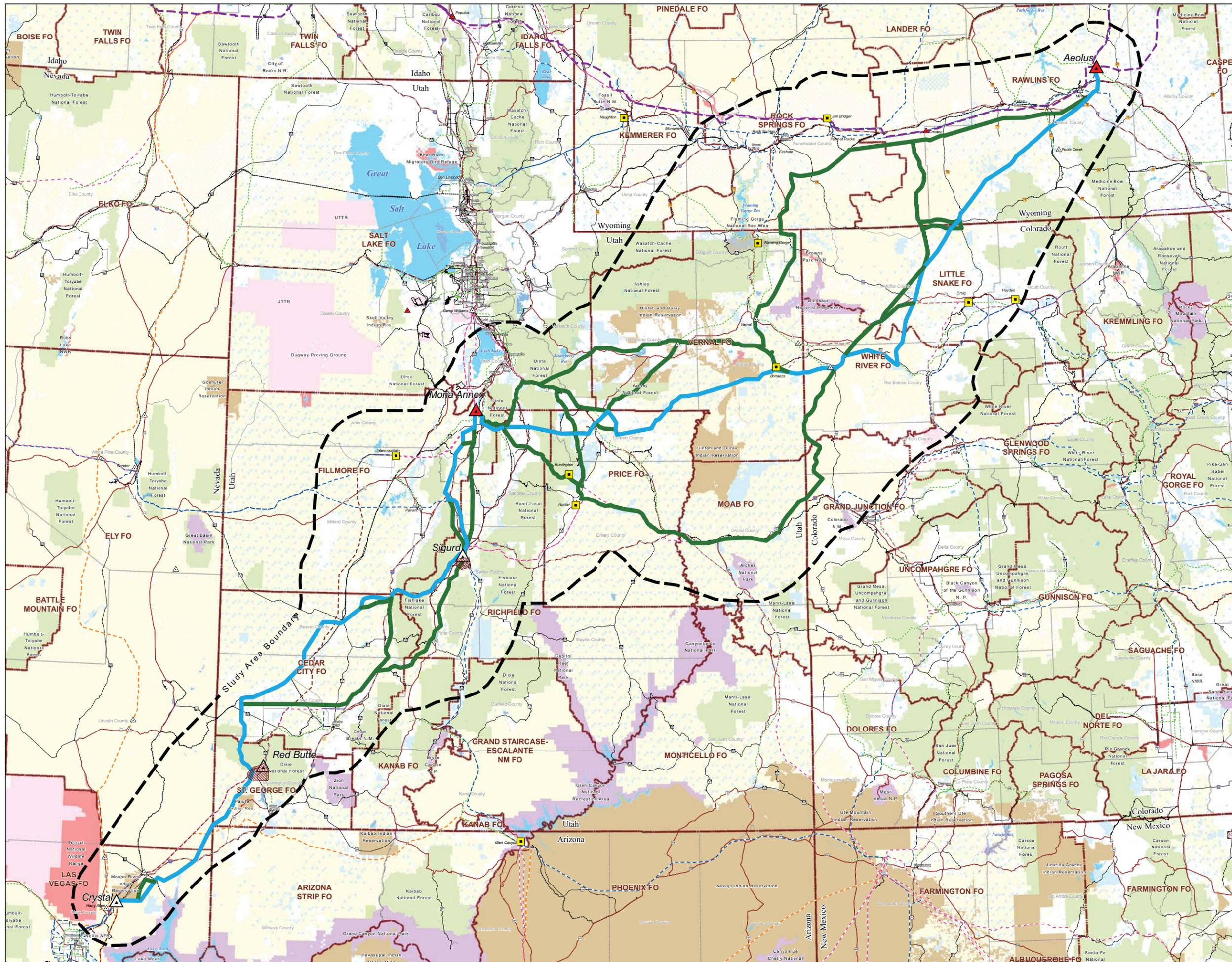
The Gateway South Project is one part of PacifiCorp's overall transmission expansion program, called the Energy Gateway Program, which will add more than 1,900 miles of new transmission lines connecting PacifiCorp's customers to new and existing generation resources and provide stronger ties to established energy markets. The Energy Gateway Program is composed of several large scale projects that will address customers' increasing electric energy use, improve system reliability, and connect new renewable resources and other generation resources to customers throughout PacifiCorp's six-state service area and the western United States.

As proposed, the Gateway South project (Project) would be comprised of four segments of high-voltage alternating current (AC) transmission lines that would run between existing, planned, and proposed substations. A proposed double-circuit 500kV transmission line or two parallel single-circuit 500 kilovolt (kV) transmission lines (on the same right-of-way) approximately 350 miles in length would begin at the planned Aeolus Substation near Medicine Bow, Wyoming, continuing southwest near Saratoga, Wyoming, and then continuing southwest near Baggs, Wyoming. From the Baggs area, the transmission line would continue into northwestern Colorado in a southwesterly direction towards the Utah border near the town of Rangely, Colorado. From that point, the route would travel overland to the west towards the general vicinity of Price, Utah, then continue west towards the planned Mona Annex Substation near Mona, Utah. A proposed, single-circuit 500kV transmission line approximately 350 miles in length would begin at the Mona Annex Substation, turning southwest to pass through Utah generally along Interstate 15 to the proposed Sigurd Annex Substation near Richfield, Utah, and on to the proposed Red Butte Annex Substation located within a target area of approximately 8 miles of the existing Red Butte Substation. From the Red Butte Annex Substation, the proposed route would cross into Nevada north of Mesquite and continue toward the northern Las Vegas area, terminating at the existing Crystal Substation near Glendale, Nevada. A map of the Project study area, including the proposed and alternative routes, is presented as Figure 1. The project description will be finalized after final engineering is complete.

As proposed, the Project would connect with several existing, planned, or proposed substations, and series compensation stations, including:

- Planned Aeolus Substation—this substation is planned to be in service prior to the Gateway South project.
- Proposed Series Compensation Stations 1 and 2—two series compensation stations (proposed at two separate points between the Aeolus and Mona Annex Substations) to improve the transport capacity and efficiency of the planned Aeolus and Mona Annex Substations.
- Planned Mona Annex Substation—this substation would interconnect to the existing Mona Substation and existing 345kV transmission system in southern Utah. The Mona Annex Substation is proposed as part of the Mona to Oquirrh Transmission Line Project.

FIGURE 1
PROPOSED AND ALTERNATIVE ROUTES



Legend

Jurisdictions

- Bureau of Land Management
- Indian Reservation
- U.S. Forest Service
- National Park Service
- U.S. Fish & Wildlife Service
- Department of Defense
- Bureau of Reclamation
- State Land
- Private Land
- State Park
- State Boundary
- County Boundary
- City (Population more than 10,000)
- BLM Field Office Boundary

Project Features

- Planned Substation
- Study Area Boundary
- Proposed Route (2 Mile Study Corridor)
- Alternatives Under Further Consideration (2 Mile Study Corridor)
- Proposed Substation Siting Area

Utility Facilities

- Existing Power Plant
- Existing Substation
- 500kV+/- DC Transmission Line
- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 115/138kV Transmission Line

Transportation Features

- Interstate Highway
- US Highway
- State Highway
- Railroad

Water Features

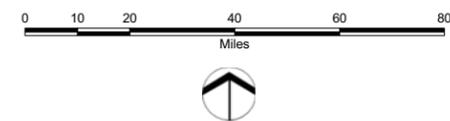
- River or Stream
- Lake, Pond, or Reservoir

Data Sources

Transportation: NTAD2008, US Department of Transportation
 Land Jurisdiction: BLM State Office California, Colorado, Idaho, New Mexico, Oregon, Utah, Wyoming 2008
 POWERmap, powermap.platts.com
 ©2007 Platts, A Division of The McGraw-Hill Companies

NOTE: Substation locations are schematic and do not necessarily represent precise locations.

Print Date : December 16, 2008



ENERGY GATEWAY SOUTH
TRANSMISSION LINE PROJECT



PIGS\Projects\PacificCorp\Gateway_South\mxd\GWS_proposed_and_alternative_routes.mxd

- Proposed Sigurd Annex Substation—this substation would interconnect to the planned Mona Annex Substation, and also would connect to the existing Sigurd Substation and existing 345kv transmission system in southern Utah to provide energy transfer capacity to customers in the area;
- Proposed Red Butte Annex Substation—this substation would interconnect Gateway South to the existing transmission system and would provide energy transfer north and south in Utah. This substation would also connect to the existing Red Butte Substation and existing 345kV transmission system in southern Utah and would provide energy transfer capacity to customers in the area.
- Existing Crystal Substation—this substation is in service and operated by NV Energy.

The four transmission line segments composing the proposed Project are defined as:

- Segment 1—planned Aeolus Substation to the planned Mona Annex Substation
- Segment 2—planned Mona Annex Substation to the proposed Sigurd Annex Substation
- Segment 3—proposed Sigurd Annex Substation to the proposed Red Butte Annex Substation
- Segment 4—proposed Red Butte Annex Substation to the existing Crystal Substation

Interconnections between the existing Sigurd and Red Butte substations with the proposed substations would also be necessary.

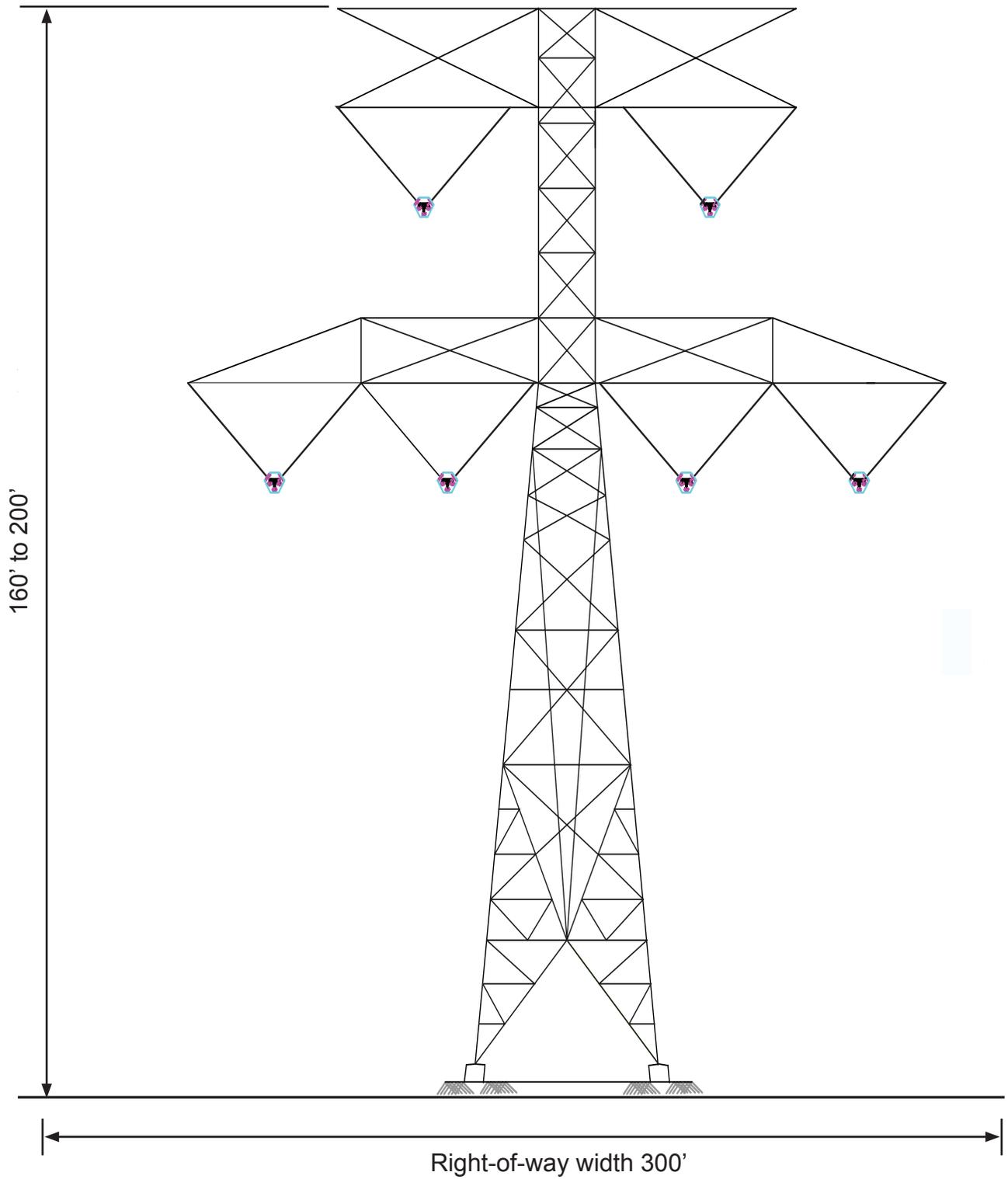
(a) Type of system or facility

A high-voltage transmission line(s) system, including the proposed Series Compensation Stations 1 and 2 and the proposed Sigurd Annex and Red Butte Annex Substations, is being proposed as a 500kV AC facility.

(b) Related structures and facilities

Designs for typical 500kV transmission line structures are illustrated in Figures 2 and 3, and a more detailed description of transmission line segments, substations, and ancillary facilities is included in Attachment B.

At this time, it is anticipated that self-supporting lattice single- and double-circuit tangent structures made of dulled galvanized steel would be predominantly used in conjunction with dead end structures in selective locations (at angle and turning points). This structure type was primarily selected because (1) maintenance activities are safer than other tower design options due to the configuration of the circuits, and (2) the tower does not exceed 200 feet in height. The average tower height for double-circuit structures would be approximately 160 feet with a maximum height of 200 feet. The average tower height for single-circuit structures would be approximately 140 feet with a maximum height of 190 feet. The average span between towers would be approximately 1,000 to 1,300 feet.

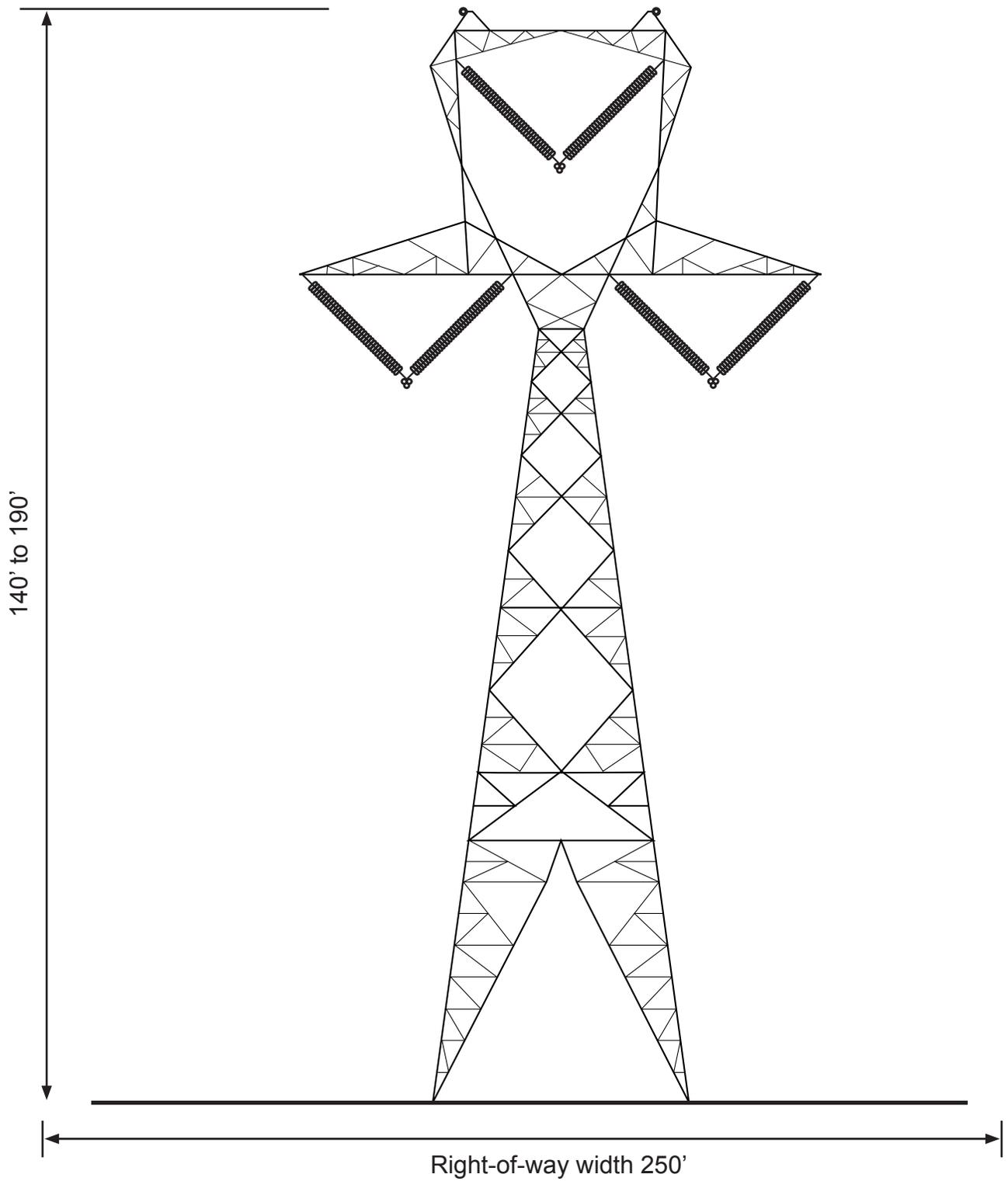


NOTE: The self-supporting lattice double-circuit is the structure that would be used predominantly.

Not to Scale

Note: All dimensions are approximate and are subject to change

Figure 2
 Typical 500kV AC Double-Circuit Lattice Structures
 Gateway South Transmission Project



NOTE: The self-supporting lattice single-circuit is the structure that would be used predominantly.

Not to Scale

Note: All dimensions are approximate and are subject to change

Figure 3
Typical 500kV AC Single-Circuit Lattice Structures
Gateway South Transmission Project

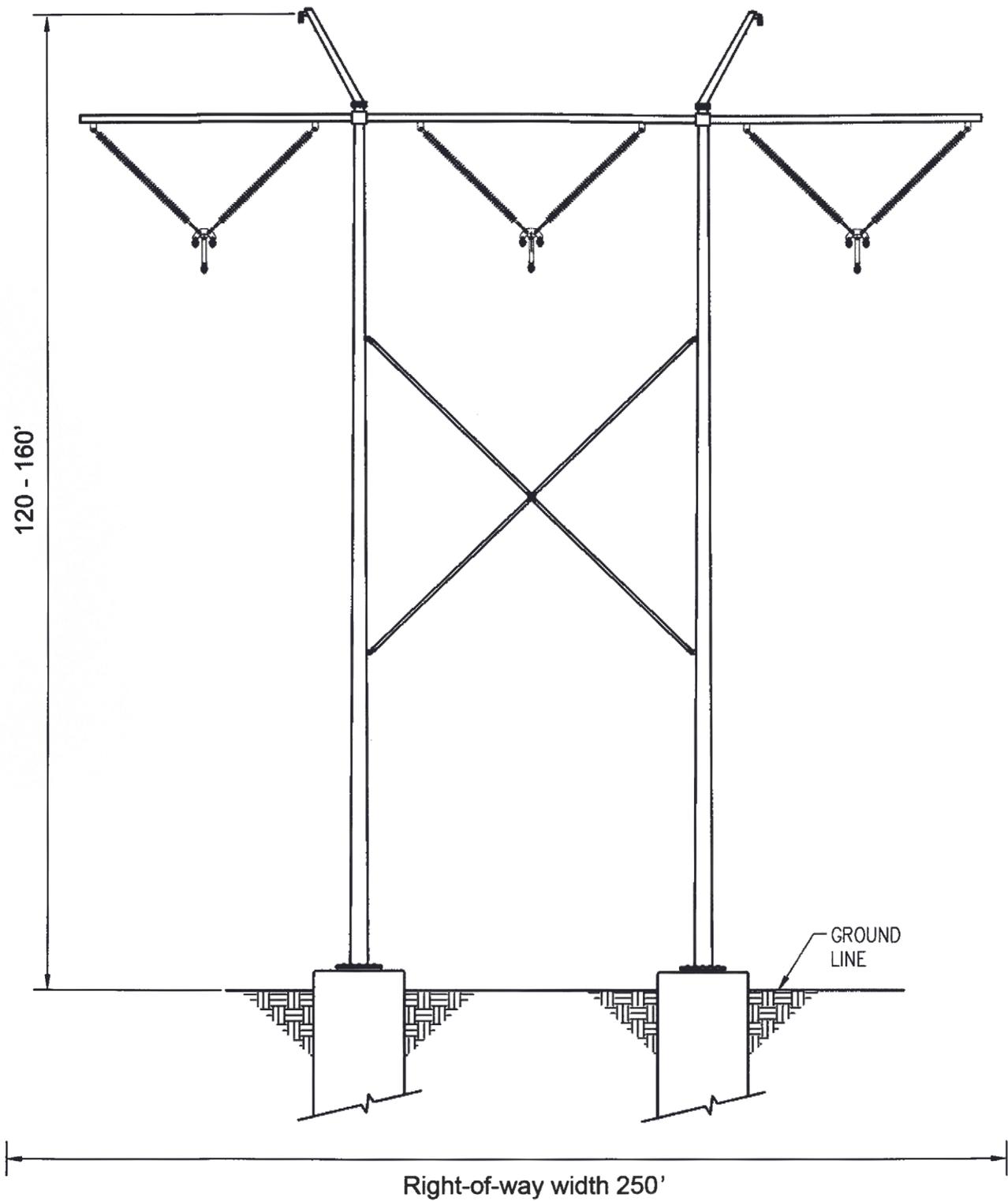
The transmission line structures used could vary depending on prescribed design and/or mitigation measures. For example, an H-frame, illustrated in Figure 4, or single-circuit tubular steel structure could be constructed as alternates because of land use or biological habitat concerns, etc. Typically these structures would be spaced approximately 800 feet apart (6 to 7 structures per mile).

PacifiCorp proposes to acquire a permanent 300-foot-wide right-of-way for the construction and operation of the double-circuit section of the project and a 250 foot-wide right-of-way for the single-circuit section of the project. The determination of this width is based on two criteria: (1) sufficient clearance must be maintained during a high wind event when the conductors are towards the right-of-way edge, and (2) sufficient room must be provided within the right-of-way to perform transmission line maintenance. If two single-circuit lines are constructed in Segment 1, the proposed right-of-way would be 350 feet wide for construction and operation.

The proposed Series Compensation Stations 1 and 2 would be located at separate points along Segment 1 from the planned Aeolus Substation to the planned Mona Annex Substation. 500kV circuit breakers and related switching equipment, bus supports and other equipment would be installed for the transmission line(s) structures. Additional equipment, including 500kV series capacitors and 500kV transformers and shunt reactor banks, along with all associated site preparation, fencing, foundations, protection, control, and communications equipment, and metering also would be installed. Locations for the series compensation stations have not yet been identified but generally would be located equidistant between the planned Aeolus Substation and the planned Mona Annex Substation. Access roads would be required for both stations. In general, access roads would be a minimum of 14 feet in width.

The proposed Sigurd Annex Substation would consist of 500/345kV circuit breakers, high-voltage switches, bus supports, and other equipment. Additional equipment, including 500/345kV transformers and 500kV shunt reactor banks, along with all associated site preparation, fencing, foundations, steel substation towers, bus work, protection and control, and metering also would be installed. Developed acreage required would be approximately 367 acres. Depending upon the exact location, a new or existing access road would be used to reach the site. Existing access roads would be improved to 14 feet wide or smoothed to berm width.

The proposed Red Butte Annex Substation would consist of 500/345kV circuit breakers, high-voltage switches, bus supports, and other equipment. 500kV and 345kV line termination structures approximately 135 feet in height also would be installed. Additional equipment, including 500/345kV transformers and 500kV shunt reactor banks, along with all associated site preparation, fencing, foundations, steel substation towers, bus work, protection, control, and communications equipment, and metering would also be installed. Developed acreage required would be approximately 367 acres. Depending upon the exact location, a new or existing access road would be used to reach the site. Existing access roads would be improved to 14 feet wide or smoothed to berm width.



NOTE: The H-frame single-circuit structure would only be used when conditions warrant.

Not to Scale

Note: All dimensions are approximate and are subject to change

Figure 4
 Typical 500kV AC Single-Circuit H-Frame Structures
 Gateway South Transmission Project

Final design for the 500kV transmission system, including proposed substations, would not be determined until further transmission planning and engineering studies have been completed.

(c) Physical Specifications

The transmission system length would be approximately 650 to 835 miles (depending on the alternative route selected), with a right-of-way width of approximately 250 to 350 feet (varies based on tower type and configuration), maintaining a separation from other existing transmission lines as required based on PacifiCorp's planning criteria. A more detailed project description, including physical specifications of the transmission line segments, substations, and ancillary facilities is included in Attachment B. Final design for the proposed transmission line and substation facilities will be determined upon further transmission planning and engineering studies.

(d) Term of years needed

The requested term of right-of-way grant for the Project is 50 years.

(e) Time of year or use of operation

The transmission line(s) would operate year-round and on a daily basis, 24 hours a day. Maintenance activities would be scheduled and coordinated with other facilities to avoid service interruptions to customers served by the line(s).

(f) Volume or amount of product to be transported

The transmission line(s) would carry approximately 3,000 megawatts (MW) of power from the planned Aeolus Substation near Medicine Bow, Wyoming, to the planned Mona Annex Substation near Mona, Utah. From the planned Mona Annex Substation, the transmission line would carry approximately 1,500 MW of power, interconnecting with the proposed Sigurd Annex and Red Butte Annex Substations and would terminate at the existing Crystal Substation near Glendale, Nevada.

(g) Duration and timing of construction

Up to 3 years is anticipated to construct the proposed substations and transmission line(s), with construction projected to begin in September 2012.

(h) Temporary work areas needed for construction

Temporary work areas would be determined during preliminary design and compliance with the National Environmental Policy Act (NEPA), through the development of an Environmental Impact Statement (EIS). Approximately one 20-acre construction yard would be required every 25 miles (locations to be determined and located on private property to the maximum extent possible). A temporary work area of approximately 300 feet (or width of right-of-way) by 700 feet would be needed at each tower site and line tensioning site (every 2 miles). More detailed information on the typical dimensions for 500kV transmission line components is included in Attachment B.

8) Attach a map covering area and show location of project proposal.

The location of the Project, including proposed and alternative routes being considered for detailed analysis are presented in Figure 1.

9) State or local government approval:

Applications for all required state and local permits would be submitted during, or after, the Bureau of Land Management (BLM) and U.S. Forest Service's (USFS) review and approval process, as appropriate.

10) Nonreturnable application fee:

An application fee was filed with the original project right of-way application submittal in May 2007 (Jim Bridger to Crystal Project).

12) Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

PacifiCorp has successfully constructed, operated, and maintained similar electrical facilities throughout the states of Wyoming and Utah (and its six-state service territory) for more than 75 years. PacifiCorp has the technical and financial capability to construct, operate, and maintain the requested transmission line.

13a) Describe other reasonable alternative routes and modes considered.

Regional corridor feasibility studies were completed from Wyoming to southern Nevada, to assist in developing transmission corridors. Results of the studies identified corridor options that would minimize potential environmental impacts. The preliminary corridors for study were typically up to 4 miles wide and were included in the Preliminary SF 299 application submitted to BLM in 2007. Subsequent to this analysis, additional review and screening of these alternatives has been performed with further consideration for the following criteria:

- Presence of designated or proposed utility corridors
- Presence of other existing linear facilities
- Sensitive resource areas and land use constraints (at a macro level)
- Substation interconnection requirements
- System planning criteria including separation requirements from existing and planned bulk electric facilities
- Construction, operation, and maintenance of facilities

PacifiCorp's interdisciplinary team used the following process to further identify routes:

1. Utilize federally-designated utility corridors, but minimize the use of corridors that contain existing Extra High Voltage (EHV) transmission lines
2. Parallel linear facilities, such as pipelines, low voltage transmission lines, etc.
3. Minimize segments and/or line mileage that conflicts with the NERC planning criteria, and would result in reduced reliability or capacity which is further explained below.

As a regulated utility, PacifiCorp needs to conform to the requirements set forth by the North American Electric Reliability Council (NERC), which is subject to oversight by the U.S. Federal Energy Regulatory Commission (FERC). NERC's mission is to ensure the reliability of the bulk power system in North America and transmission systems in the United States must be planned, operated, and maintained under NERC reliability standards. In compliance with these standards, transmission systems must be built with sufficient levels of redundancy to enable the transmission system to reliably operate in the event of the loss of any single element (i.e., transmission line segment or substation element). For example, a plan to construct a bulk transmission system consisting of one line and one station would need to be constructed with a duplicate line and station capable of providing backup in the event any single element fails. Furthermore, as a transmission line reaches its fully-rated capacity, it approaches this condition wherein the fully-utilized line can withstand an outage, but it can not provide back up (or redundancy). As a result, new transmission lines that are added to a fully-utilized system must be designed with 'extra' capacity in order to maintain system reliability. This is a key driver in the planning of Gateway South and the importance of this issue is reinforced in the West-Wide Energy Corridor Final Programmatic EIS (WWEC PEIS), released in November 2008 by the BLM and the Department of Energy, wherein it states:

"Compliance with NERC and regional reliability standards *is essential* to guaranteeing the reliability of the nation's bulk electricity transmission network and nothing in this PEIS, including the establishment of energy corridors that may subsequently result, contravenes, replaces, or relaxes the applicability or

enforceability of NERC or Western Electricity Coordinating Council (WECC) reliability standards...”

Furthermore, NERC/WECC guideline G6 explicitly states that “the interconnected transmission systems should be planned to avoid excessive dependence on any one transmission circuit, structure, right-of-way, or substation”. The level of dependence on any transmission circuit, structure, right-of-way or substation is influenced by the availability of redundant or ‘back up’ systems to connect generation and to connect loads to the grid. As a result, PacifiCorp must plan its main grid transmission in a manner that avoids potential risks of large scale interruption of load service or generation integration that may result from loss of multiple lines in an area. Therefore, to the maximum extent possible the proposed route utilizes federally-designated energy corridors and parallels existing linear facilities. However, in order to satisfy the planning criteria and ensure that the Gateway South transmission line, when fully utilized, would meet the standards, it was necessary to identify segments that were outside these two initial criteria. This scenario was anticipated in the WVEC PEIS, which further states:

“In those instances where the postulated specifications of hypothetical energy corridors are inconsistent with the reliability standards or criteria, *those specifications shall be deemed moot*, replaced with specifications that are consistent with the applicable standards or criteria.”

In order to achieve the reliability and capacity needed to serve present and future loads within the PacifiCorp service area, the planning standards require a minimum separation from existing and future planned transmission lines. That separation depends on the purpose of the existing line it’s capacity and it’s impact to the wider grid due to outage or failure, NERC transmission planning criterion (TPL (001-004)-WECC-1-CR) issued April 18, 2008, specifies that in order to avoid a rating as an adjacent transmission circuit (which assumes both are likely to fail if an event affects either one), each circuit must be separated by at least “the longest span length of the two transmission circuits at the point of separation or 500 feet, whichever is greater, between the transmission circuits.” (WECC 2008b) For the purposes of Gateway South, the longest span for the 500kV transmission line was assumed to be 1,500 feet, as the minimum distance for planning purposes between existing and proposed EHV lines. However, this criterion by itself does not guarantee transmission system reliability or future performance and additional separation may be prudent in order to insure the reliability of the interconnected grid. The WVEC PEIS speaks to this issue by stating that:

“One area where the [NERC and WECC] reliability standards or criteria critically dictate corridor specifications is with respect to the distance separations between multiple bulk electricity transmission lines located in common or adjacent corridors. Reliability criteria recently proposed by WECC address the potential for simultaneous or successive failures of multiple transmission lines within a common corridor or within parallel adjacent corridors.... by far the most cost effective preemptive strategy against multiple simultaneous line loss involves ensuring adequate distance separation between lines at the planning stage.”

Because of the relative scale and significance of the Gateway South project to the western United States electricity system, these separation criteria must also account for incidents in the past where even greater separation from existing EHV lines is prudent. For instance, the 1992 *Western Regional Corridor Study* notes that on at least one occasion, high winds caused the loss of two adjacent 500kV line towers on the Pacific Intertie and the resulting power outage left an estimated 5.2 million customers in California, Nevada and Oregon and Texas without power.

This simultaneous loss of two major EHV lines resulted in a system reliability and capacity review that led to the construction of a new (3rd) EHV transmission line which was designed to maintain a separation of at least five miles and no less than one mile if absolutely no other alternative routes existed. For similar reasons, other utilities in the western United States have maintained separation distances of at five miles in order to satisfy NERC standards.

Therefore, based upon a combination of the governing planning criteria and reliability standards, historical precedents, and the collective professional expertise of the electrical industry, PacifiCorp intends to ensure system reliability by maximizing transmission line separation distances, up to five miles, between the proposed route and other EHV lines to the greatest extent possible. In particular, a separation of five miles has been proposed in three general areas within the study area: along the Interstate 80 corridor, in the vicinity of the Intermountain Power Project (IPP) corridor, and along I-70 south of Sigurd. PacifiCorp's proposed route also intends to maintain a separation distance of five miles from any other EHV transmission projects or paths that are proposed within the study area. Figure 1 depicts the proposed and alternative routes that were identified through this screening process and that are being considered at this time.

Detailed environmental studies, engineering studies, and field review/surveys will be required for the proposed and alternative transmission line(s) routes, substations, and series compensation stations to be evaluated during the NEPA process.

13b) Why were these alternatives not selected?

All potential feasible alternative routes and substation sites will be considered during the NEPA process. Alternatives that have been eliminated from consideration at this time include routes that do not meet the stated purpose and need for the Project (see Section 15 and Attachment B); do not meet system reliability or planning criteria for the Project; or are not financially feasible to construct or operate. Based on preliminary comments from federal and state agencies, some alternative routes were also eliminated based on non-compliance with land management plans and known sensitive resources.

13c) Give explanation as to why it is necessary to cross federal lands.

In order to interconnect the transmission line with all necessary terminal points (substations and series compensation stations), the crossing of federally-managed land primarily administered by the BLM and USFS would be required. Generally, the study area is identified as open range and undeveloped; however, incorporated cities and other populated areas are dispersed throughout. Alternatives identified outside of urban areas would cross federally managed land.

14) List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency (*Specify number, date, code, or name*).

Five preliminary right-of-way applications have been or are being filed with the BLM for extra-high voltage transmission lines within the Project study area: (1) Mona to Oquirrh 500/345kV Transmission Corridor Project, filed January 2007 with the BLM Salt Lake and Fillmore field offices by PacifiCorp, (2) Wyoming-West Transmission Corridor Project (Wyoming-West), filed in March 2007 by National Grid and the Wyoming Infrastructure Authority (WIA)—at this time National Grid and WIA are not moving forward with Wyoming West; (3) Dave Johnston to

Hemingway 500kV Transmission Project (Gateway West), filed in May 2007 by PacifiCorp and Idaho Power Company, (4) TransWest Express 500kV Transmission Project (TransWest Express), filed in November 2007 by National Grid, revised by National Grid in February 2008, and then reassigned to TransWest Express LLC in September 2008, and (5) Sigurd to Red Butte No. 2 345kV Transmission Project, to be filed with the BLM Color Country District and West Desert District and the USFS Dixie National Forest and Fishlake National Forest by PacifiCorp.

In August 2007, Arizona Public Service (APS), PacifiCorp, WIA, and National Grid entered into an agreement to collaborate on the development of the TransWest Express and Gateway South projects. Since this time, APS, WIA, and National Grid have withdrawn from the agreement, and the unserialized right-of-way application and related BLM project file for the TransWest Express Project has been assigned to TransWest Express LLC.

PacifiCorp has established a working relationship with Idaho Power in respect to the development of Gateway West as part of a regional transmission solution.

15) Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (*construction, operation, and maintenance*); (b) estimated cost of next best alternative; and (c) expected public benefits.

The energy needs of PacifiCorp's customers and particularly those areas in the Intermountain region have significantly increased the electrical demands placed on the supply system over the past 25 years. As a result, the current transmission system that has provided consumers with access to low cost generating resources and ensures the delivery of reliable service is now fully utilized. Looking to the future, prudent action by PacifiCorp requires that electric infrastructure be planned and constructed.

The Energy Gateway South transmission line will help ensure customers now and in the future have adequate sources of safe, reliable electricity including new sources of renewable energy provided by wind generation located in Wyoming. PacifiCorp (DBA Rocky Mountain Power, PacifiCorp Energy, and Pacific Power) provides an essential public service and is obligated to safely and reliably meet the growing electrical demands of its customers.

This project will fulfill the following key responsibilities of PacifiCorp in meeting those obligations:

- Transmission capacity—provide incremental levels of increased transmission capacity for use by PacifiCorp's network customer's longer term and additionally provide opportunities for third-party transmission users to acquire access.
- Meeting customer demand—support the increasing electrical needs demanded by retail customers in the region, and meeting those demands both now and for the long term. Electric customers' demands for more electricity continue to grow along with their expectations for increased reliability.
- Reliability—provides increased reliability by adding to the region's existing transmission infrastructure which is now capacity constrained and is operationally limited. This new transmission project will substantially improve PacifiCorp's ability to provide reliable electrical service to its customers through access to energy resources.

- Access energy resources—this project is expected to provide necessary options to transport electricity generated from new and existing facilities anticipated to be built in Wyoming, which has substantial energy resources, including new renewable generation sources like wind, in addition to conventional thermal resources.

A more detailed statement of PacifiCorp's purpose and need for the project is presented in Attachment B.

(a) Cost of proposal (construction, operation, maintenance):

The approximate cost of the transmission line project is anticipated to be \$2.8 billion.

(b) Estimated cost of next best alternative

This right-of-way application identifies several transmission line alternatives. As the project progresses through the EIS process, detailed studies would be completed, and alternatives would be evaluated in detail.

(c) Expected public benefits

The transmission line(s) would increase reliability and maintain economic viability of electricity to consumers throughout the western states. Other public benefits may include increased employment in rural areas, as part of transmission line(s) construction and operation, and an increased tax base.

16) Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

The Project may provide the area population with job opportunities (e.g., construction, operation, maintenance) and increased tax revenues based on the value of the Project's assets. All aspects of the Project's impact on the rural lifestyle that might be affected would be examined in detail in the EIS.

17) Describe likely environmental effects that the proposed project would have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

Mitigation measures would be developed, where necessary, to minimize potential environmental impacts to natural and human resources.

(a) Air quality

Construction of the transmission line(s) and substation would have relatively short-term and localized effects on air quality in the study area, from fugitive dust and emissions from equipment exhaust.

(b) Visual impacts

Effects on visual resources would result from the visibility of project facilities (e.g., transmission structures, conductors, and substation), vegetation clearing, and ground-disturbing construction activities. Viewers potentially affected by the Project include residences, recreationists, and travelers along roads. Mitigation measures would be implemented to reduce visual impacts where practicable.

(c) Surface and ground water quality and quantity

Effects to water resources are anticipated to be minimal. Minimal changes to drainage patterns are expected. Potential effects to surface water would be short-term during construction.

(d) Control or structural change on any stream or other body of water

There would be no control or structural change of any perennial stream or other permanent body of water. Efforts would be made to place the transmission structures outside perennial streams and all other water bodies.

(e) Existing noise levels

Noise levels resulting from the Project would be almost entirely due to construction-related activities, which would result in a temporary increase in noise levels during daytime hours. Measures would be implemented to mitigate potential noise effects to receivers during construction activities. The Project would comply with all local noise ordinances during construction, maintenance, and operation of the transmission line(s) and substation.

(f) The surface of land including vegetation, permafrost, soil, and soil stability

For operational safety reasons, any tall vegetation in the transmission line(s) right-of-way would be removed. Impacts to vegetation would be temporary at each transmission line structure, except for the actual location of the transmission structure where vegetation would be removed. There may be impacts to vegetation from construction and maintenance access, depending on final construction design. Vegetation within areas of existing rights-of-way, but outside of the transmission line(s) construction area, would not be impacted.

Potential impacts to soil stabilization from the Project would be minimal and would be mitigated.

18) Describe the probable effects that the proposed project would have on (a) populations of fish, plant life, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

There are no probable effects that the Project would have on populations of fish, marine life, marine mammals, including hunting, capturing, collecting, or killing these animals. Potential effects to populations of plant life, wildlife, including threatened and endangered species, would be evaluated in the NEPA compliance process. Mitigation measures would be developed where necessary to minimize potential environmental impacts.

19) State whether any hazardous material, as defined in this paragraph, would be used, produced, transported, or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance, or termination of the right-of-way or any of its facilities.

No hazardous material would be produced, transplanted, or stored on, or within the right-of-way. Petroleum products, such as gasoline, diesel fuel, and lubricants, would be present on-site during construction. These products would be used to fuel and lubricate vehicles and equipment but would be contained within fuel trucks or in approved containers. Vehicle-fueling and maintenance activities would not occur in any environmentally sensitive areas. When not in use, such materials would be stored properly to prevent drainage or accidents during project construction.

Construction, operation, and maintenance activities would comply with applicable federal, state, and local regulations regarding the use of hazardous materials. Hazardous materials would not be drained onto the ground or into streams or drainage areas. Totally enclosed containment would be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, would be removed and transported to a disposal facility authorized to accept such materials. Spills are not expected, but, should they occur, would likely be minimal and would be immediately addressed. All potentially hazardous materials would be addressed in the EIS and the final Plan of Development.

Mitigation measures would be developed where necessary to minimize potential environmental impacts.

20) Name all the Department(s)/Agency(ies) where this application is being filed.

A majority of the federal lands potentially crossed by the Project are managed by the BLM and the USFS. This right-of-way application has been filed with the BLM Wyoming State Office.

ENERGY GATEWAY SOUTH TRANSMISSION PROJECT

**Revised Standard Form 299 Right-of-Way Application
Attachment B**

Submitted to:

Bureau of Land Management
Wyoming State Office
5353 Yellowstone Road
Cheyenne, Wyoming 82003

Submitted by:

PacifiCorp (DBA Rocky Mountain Power, PacifiCorp Energy, and Pacific Power)

December 2008

Per request of the Bureau of Land Management, PacifiCorp is providing a further refined purpose and need statement for the Energy Gateway South Project (Project), including substation and transmission line segment purposes, and updating the project description. A revised draft Plan of Development to include a more detailed project description will follow.

1.0 PROJECT BACKGROUND AND OBJECTIVES

The energy needs of PacifiCorp's customers, particularly those in the Intermountain region, have significantly increased the electrical demands placed on the supply system over the past 25 years. As a result, the current transmission system that has provided consumers with access to low-cost generating resources and ensures the delivery of reliable service is now fully utilized. Looking to the future, prudent action by PacifiCorp requires that electric infrastructure be planned and constructed.

The Energy Gateway South transmission line will help ensure that customers now and in the future have adequate sources of safe, reliable electricity, including new sources of renewable energy provided by wind generation located in Wyoming. PacifiCorp (DBA Rocky Mountain Power, PacifiCorp Energy, and Pacific Power) provides an essential public service and is obligated to safely and reliably meet the growing electrical demands of its customers.

This project will fulfill the following key responsibilities of PacifiCorp in meeting those obligations:

Transmission Capacity: Provide incremental levels of increased transmission capacity for use by PacifiCorp's network customer's for longer terms, and additionally provide opportunities for third-party transmission users to acquire access.

Meeting Customer Demand: Support the increasing electrical needs demanded by retail customers in the region, and meeting those demands both now and for the long term. Electric customers' demands for more electricity continue to grow, along with their expectations for increased reliability.

Reliability: Provide increased reliability by adding to the region's existing transmission infrastructure, which is now capacity-constrained and operationally limited. This new transmission project will substantially improve PacifiCorp's ability to provide reliable electrical service to its customers through access to energy resources.

Access Energy Resources: This project is expected to provide necessary options to transport electricity generated from new and existing facilities anticipated to be built in Wyoming, which has substantial energy resources, including new renewable generation sources like wind in addition to conventional thermal resources.

2.0 PROJECT PROPONENT'S NEED

PacifiCorp is a public utility under the jurisdiction of the Federal Energy Regulatory Commission and six state regulatory commissions. As provided in PacifiCorp's Open Access Transmission Tariff (OATT)¹ under Sections 15.4, 28.2, and 28.3, PacifiCorp is obligated to expand its Transmission System to provide requested Firm Transmission Service, and to construct and place in service sufficient capacity to reliably deliver resources to Network and Native Load Customers. PacifiCorp's Attachment K of the OATT also requires planning for the expansion of the system to ensure that its Transmission System meets industry, regulatory, and reliability standards.

PacifiCorp's is a vertically integrated electric utility that transmits electricity via a grid of transmission lines throughout a six-state region that serves 1.7 million retail customers through its distribution system. The company sells electricity primarily in the retail market, with sales to residential, commercial, industrial, and other customers. It also sells electricity in the wholesale market to benefit the region when excess electricity generation exists or when required for other system balancing activities.

Rocky Mountain Power is the trade name under which PacifiCorp delivers electricity to more than 955,000 customers in the Rocky Mountain Power service area, which includes Utah, Wyoming, and Idaho. The Rocky Mountain Power division of PacifiCorp operates under oversight and regulatory controls of the Public Service Commission of Utah, the Wyoming Public Service Commission and the Idaho Public Utility Commission. PacifiCorp also provides service to customers in the Pacific Northwest states of Oregon, Washington and California under the trade name Pacific Power and is subject to the regulatory oversight of the Oregon Public Utility Commission, the Washington Utilities and Transportation Commission and the California Public Utilities Commission.

PacifiCorp has a regulatory requirement to meet both mandated and voluntary standards directed at increasing supply of renewable ("green") energy sources (i.e., Renewable Portfolio Standards) as part of its overall energy resource portfolio. The Energy Gateway Program and Gateway South are both enablers to ensuring that these long-term requirements are met. In addition, a reliable electric supply system is paramount to the economic viability of the region and is key in helping what is necessary to preserve national security. This fact is evidenced by the recent enactment of the North American Electric Reliability Corporation and Western Electricity Coordinating Council reliability standards targeted to improve the overall reliability of the U.S. electric supply system. The Energy Gateway Program and Gateway South Project in particular will help PacifiCorp maintain compliance with the rigorous requirements demanded by these new standards. Please see Attachment C for further information.

The Energy Gateway Program and Gateway South are also key components and enablers of PacifiCorp's current and future Integrated Resource Plans, which are periodically refreshed to account for changing market conditions and energy supply pictures. Predictable and reliable transport of these variable energy resources provides viable options for PacifiCorp to take advantage of changing resource portfolios. The Energy Gateway Program and the Gateway

¹ PacifiCorp's current version of the OATT is available on its Open Access Same Time Information System (OASIS) web site at <http://www.oasis.pacifiCorp.com/oasis/ppw/SEVENTHREVISEDVOLUME11.PDF>

South project will provide a long-term foundation for PacifiCorp's IRP process, which in turn will provide benefits to customers.

The need for this project is tied to PacifiCorp's obligations as a regulated utility to provide increased capacity (as required to serve growing loads), to meet renewable portfolio standards, and to provide safe, reliable electricity to its customers at a reasonable cost. The purpose of this project is to address constraints within the Company's existing transmission system that necessitate the development of new transmission paths within the corridors depicted in the proposed action described below.

3.0 GATEWAY SOUTH PROPOSED ACTION

The Gateway South Project is one part of PacifiCorp's overall transmission expansion program, called the Energy Gateway Program, which will add more than 1,900 miles of new transmission lines connecting PacifiCorp's customers to new and existing generation resources and providing stronger ties to established energy markets. The Energy Gateway Program is composed of several large-scale projects that will address customers' increasing electric energy use, improve system reliability, and connect new renewable resources and other generation resources to customers throughout PacifiCorp's six-state service area and the western United States.

As proposed, the Project would be comprised of four segments of high-voltage alternating current (AC) transmission lines that would run between existing, planned, or expanded proposed substations. A proposed double-circuit transmission line 500 kilovolt (kV) or two parallel single-circuit 500kV transmission lines (on the same right-of-way) would begin at the planned Aeolus Substation near Medicine Bow, Wyoming, continuing southwest towards Saratoga, Wyoming, and then continuing southwest near Baggs, Wyoming. From the Baggs area, the transmission line would continue into northwestern Colorado in a southwesterly direction towards the Utah border near the town of Rangely, Colorado. From that point, the route would travel overland to the west towards the general vicinity of Price, Utah, then continue west towards the planned Mona Annex Substation near Mona, Utah. A proposed, single-circuit 500kV transmission line would begin at the planned Mona Annex Substation, turning southwest to pass through Utah generally along Interstate 15 to the proposed Sigurd Annex Substation area near Richfield, Utah, and on to the proposed Red Butte Annex Substation located within approximately 8 miles of the existing Red Butte substation. From the proposed Red Butte Annex Substation, the proposed route would cross into Nevada north of Mesquite and continue toward the northern Las Vegas area, terminating at the existing Crystal Substation near Glendale, Nevada. An overview map of the project location and facilities is provided in Figure 1 of Attachment A.

Associated facilities include the following:

- permanent access roads;
- temporary construction ground disturbances, such as staging areas, pulling and splicing sites; and
- communication systems optical-fiber-regeneration stations.

3.1 Substation Purposes

This project proposes to connect seven substations, two of which will include series compensation devices to improve the transport capacity and efficiency of the Project. The existing Crystal Substation is in service now and operated by NV Energy (DBA Nevada Power Company); the planned Aeolus Substation and planned Mona Annex Substation are scheduled to be in service prior to completion of the Project; and two substations are proposed as part of the Project, the proposed Sigurd Annex and Red Butte Annex Substation. Two series compensation stations, proposed Series Compensation Stations 1 and 2, are also proposed at two separate points along the transmission line segment from the planned Aeolus Substation to the planned Mona Annex Substation.

In Table 3-1, a ‘proposed’ substation refers to a facility designed proposed as part of the Gateway South project, whereas a ‘planned’ substation will be built independently of Gateway South Project. A project description for each substation is presented in Section 4.

TABLE 3-1 SUBSTATION PURPOSES	
Substation	Purpose
<i>Aeolus—Planned, generation-driven</i>	Located in proximity to identified “high wind energy density” areas in southeastern Wyoming. This substation will serve as a transmission hub to collect and integrate new wind and other resources into Wyoming’s existing transmission system and other planned transmission facilities. The station provides ability to transport new resources to existing and new loads in Wyoming and provides connections to transport resources to load centers out of the state.
<i>Series Compensation Station #1- Proposed</i>	This station facility would be located approximately one-third of the distance from Aeolus substation on the Aeolus to Mona Annex 500kV line. The station would be required to improve the transport capacity and efficiency of the line between the Aeolus and Mona Annex substations.
<i>Series Compensation Station #2- Proposed</i>	This station facility would be located approximately two-thirds of the distance from the planned Aeolus substation on the transmission line segment from Aeolus to the planned Mona Annex Substation. The station would be required to improve the transport capacity and efficiency of the line between the Aeolus and Mona Annex substations.
<i>Mona Annex Substation- Planned</i>	The Mona Annex Substation will provide energy transfer north and south in Utah. The substation will also connect to the existing Mona Substation and existing 345kv transmission system in southern Utah and will provide energy transfer capacity to customers in the area.
<i>Sigurd Annex- Proposed</i>	The Sigurd Annex Substation would interconnect to the planned Mona Annex Substation as part of Gateway South Project. This substation would also connect to the existing Sigurd Substation and existing 345kV transmission system in southern Utah and would provide energy transfer capacity to customers in the area.
<i>Red Butte Annex- Proposed</i>	The proposed Red Butte Annex would interconnect Gateway South to the existing transmission system and would provide energy transfer north and south in Utah. The substation would also connect to the existing Red Butte Substation and existing 345kv transmission system in southern Utah, and would provide energy transfer capacity to customers in the area.
<i>Crystal-Existing</i>	The existing Crystal Substation is a transmission hub for southern Nevada and will serve as an interconnection point with Nevada Energy, (dba NV Power Company). It is anticipated that the existing substation site will be expanded.

3.2 Transmission Line Segment Purposes

Table 3-2 summarizes the purpose of each transmission line segment of the Project. A project description for each segment is presented in Section 4.0.

TABLE 3-2 TRANSMISSION LINE SEGMENT PURPOSES	
Transmission Line Segment	Purpose
Segment 1 - Aeolus to Mona Annex - double-circuit or two parallel single-circuit 500kV lines	<ul style="list-style-type: none"> ▪ Provides long term transmission capacity to move Wyoming resources to growing load centers, primarily Utah, Idaho, and Wyoming. ▪ Improves capacity and reliability of other interconnected transmission lines associated with Energy Gateway program ▪ Reduces transmission congestion on system exiting Wyoming ▪ Provides transmission capacity of up to 1,500 MW (PacifiCorp) ▪ Provides transmission capacity of up to 1,500 MW (others)
Segment 2 - Mona Annex to Sigurd Annex - single-circuit 500kV	<ul style="list-style-type: none"> ▪ Transports Wyoming energy resources to load demand centers in central Utah. ▪ Improves reliability of other interconnected transmission lines in the area both existing and proposed ▪ Reduces transmission congestion on the existing south central Utah transmission system ▪ Will provide transmission system capacity of up to 1,500 MWs
Segment 3 - Sigurd Annex to Red Butte Annex - single-circuit 500kV	<ul style="list-style-type: none"> ▪ Transports Wyoming energy resources to load demand centers in southern Utah ▪ Improves reliability of other interconnected transmission lines in the area, both existing and proposed ▪ Reduces transmission congestion on the existing southern Utah transmission system ▪ Will provide transmission system capacity of up to 1,500 MWs
Segment 4 - Red Butte Annex to Crystal - single-circuit 500kV	<ul style="list-style-type: none"> ▪ Improves reliability of other interconnected transmission lines in the area, both existing and proposed ▪ Reduces transmission congestion on the existing southern Utah transmission system ▪ Provides increased access to energy markets in Desert Southwest. ▪ Provides for transfer of power between Utah and Nevada ▪ Will provide transmission system capacity of up to 1,500 MWs

4.0 PROJECT DESCRIPTION

4.1 Substation and Ancillary Facilities Descriptions

Table 4-1 describes the anticipated components of each substation.

TABLE 4-1 SUBSTATION AND ANCILLARY FACILITIES DESCRIPTIONS	
Substation	Description
Aeolus Substation	<ul style="list-style-type: none"> ▪ <i>Planned</i> substation to be constructed as part of proposed Energy Gateway West Project ▪ Planned access road is gravel and would not need extension ▪ 500kV circuit breakers and related switching equipment ▪ Bus and support structures ▪ 500kV line termination structures approximately 135 feet in height ▪ 500kV shunt reactor bank(s) ▪ 500kV shunt capacitor bank(s) ▪ Potential and current transformers ▪ Control, protection, and communications equipment
Series Compensation Station #1	<ul style="list-style-type: none"> ▪ <i>Proposed</i> Substation ▪ Access road required ▪ Perimeter security fence ▪ 500 kV circuit breakers and related switching equipment ▪ 500kV line termination structures approximately 135 feet in height. ▪ Bus and support structures ▪ 500kV shunt reactor banks ▪ 500kV series capacitors ▪ Potential and current transformers ▪ Control, protection, and communications equipment ▪ Control building
Series Compensation Station #2	<ul style="list-style-type: none"> ▪ <i>Proposed</i> Substation ▪ Access road required ▪ Perimeter security fence ▪ 500kV circuit breakers and related switching equipment ▪ 500kV line termination structures approximately 135 feet in height ▪ Bus and support structures ▪ 500kV shunt reactor banks ▪ 500kV series capacitors ▪ Potential and current transformers ▪ Control, protection, and communications equipment ▪ Control building
Mona Annex Substation	<ul style="list-style-type: none"> ▪ <i>Planned</i> substation ▪ Access road would be gravel. Access road length is to be determined based on final property location and proximity to existing road ▪ Perimeter security fence ▪ 500kV and 345kV circuit breakers and related switching equipment ▪ Bus and support structures ▪ 500kV/345kV transformer bank ▪ 500kV shunt reactor bank ▪ 500kV series capacitors ▪ Potential and current transformers

**TABLE 4-1
SUBSTATION AND ANCILLARY FACILITIES DESCRIPTIONS**

Substation	Description
	<ul style="list-style-type: none"> ▪ Control, protection, and communications equipment ▪ Control building
Sigurd Annex Substation	<ul style="list-style-type: none"> ▪ <i>Proposed</i> Substation ▪ Developed acreage: approximately 367 acres ▪ Existing access road will be used to reach site ▪ 500kV and 345kV circuit breakers and related switching equipment ▪ Bus and support structures ▪ 500/345kV transformer bank ▪ 500kV shunt reactor banks ▪ Potential and current transformers ▪ Control, protection, and communications equipment
Red Butte Annex Substation	<ul style="list-style-type: none"> ▪ <i>Proposed</i> Substation ▪ Developed acreage: approximately 367 acres ▪ Access road ▪ Perimeter security fence ▪ 500kV and 345kV circuit breakers and related switching equipment ▪ 500kV and 345kV line termination structures approximately 135 feet in height. ▪ Bus and support structures ▪ 500/345kV transformer bank ▪ 500kV shunt reactor banks ▪ 500kV series capacitors ▪ Potential and current transformers ▪ Control, protection, and communications equipment including fiber optic regeneration equipment ▪ Control building
Crystal Substation	<ul style="list-style-type: none"> ▪ Existing Substation operated by Nevada Energy (dba NV Power Company) ▪ Existing access road will be used to reach site ▪ 500kV circuit breakers and related switching equipment ▪ Bus and support structures ▪ 500kV transformer bank ▪ 500kV phase shifters ▪ 500kV series capacitor ▪ 500kV shunt reactor bank ▪ Potential and current transformers ▪ Control, protection, and communications equipment
Ancillary Facilities	
Communications and Control Facilities	<ul style="list-style-type: none"> ▪ Regenerator sites are required to amplify the system control and monitoring signals carried over the fiber optic cable attached to the transmission towers ▪ A total of 12 regenerator sites will be needed for the Gateway South Project Segments requiring regenerator sites are noted in the transmission line section of this summary table ▪ Regenerator sites will be located either within a substation or at another location along the route remote from a substation ▪ Regenerator sites remote from a substation are 100 X 100 feet with a 75 X 75-foot fenced area ▪ Typical building dimensions within the fenced area are 12 feet wide X 32 feet long X 9 feet tall

**TABLE 4-1
SUBSTATION AND ANCILLARY FACILITIES DESCRIPTIONS**

Substation	Description
	<ul style="list-style-type: none"> ▪ The fiber OPGW cable supported on the transmission structures would be routed in and out of the regenerator site building from the nearest transmission structure either underground or overhead along two independent diverse paths ▪ Electronic equipment, required to support the fiber optic cable installation would be located inside the building ▪ At sites not within a substation, an LP fueled emergency generator would be installed to provide backup power during an outage of the local electric distribution system supply ▪ Maximum regenerator site spacing is 55 miles or less depending on access and proximity to local electric distribution lines ▪ The primary siting criteria for a regenerator site located outside of a substation would be: adjacent to the Gateway South transmission line right-of-way, proximity to existing low voltage electric distribution lines to provide power to the facility, and the ability to easily access the site by vehicle
Other	<ul style="list-style-type: none"> ▪ Distribution line extensions are required to provide operational power and station service power at: <ul style="list-style-type: none"> ○ Regenerator Sites – for stand alone regeneration stations ○ Series Compensation Station #1 ○ Series Compensation Station #2 ○ Mona Annex Substation ○ Sigurd Annex Substation ○ Red Butte Annex Substation ▪ Typically provided from an existing distribution line located in proximity to the site ▪ Not required for Aeolus, Mona Annex, and Crystal Substations since these substations are currently planned and/or will exist at the time of the Gateway South construction

4.2 TRANSMISSION LINE DESCRIPTIONS

The following section describes the typical transmission line components for each line segment.

Transmission Line Segments	Description
Transmission Line Facilities Common to all Proposed 500kV Segments	<ul style="list-style-type: none"> ▪ Three-phase 500kV construction for all tower designs, conductor spacing, and clearances ▪ Nominal Voltage: 500kV AC line-to-line ▪ Capacity: 1,500 MW per circuit ▪ Conductors: bundled 1949.6 kcmil 42/7 ACSR/TWD “Athabaska/TW”, with three subconductors per phase <ul style="list-style-type: none"> ○ Non-specular finish ○ Subconductor triple bundle configuration: triangular ○ Estimated subconductor diameter: 1.504 inches ▪ One OPGW - wire diameter: 0.637 inches, containing 48 fibers ▪ One EHS steel overhead ground wire - estimated shield wire diameter: approximately 0.495 inches ▪ Typical minimum design conductor ground clearance: 34 feet ▪ Proposed structure types: lattice steel single- and double-circuit structures; dulled galvanized steel finish ▪ Typical structure heights: single-circuit varies between 145 and 180 feet ▪ Typical structure heights: double-circuit varies between 160 and 190 feet ▪ Approximate distance between structures: 1,000 to 1,300 feet ▪ Right-of-way width for two parallel single-circuit lines: 350 feet ▪ Right-of-way width for double-circuit: 300 feet ▪ Right-of-way width for single-circuit: 250 feet ▪ The exact quantity, structure type and height, distance between and placement of the structures would depend on the final detailed design of the transmission line, which is influenced by the terrain, land use, and economics. Alignment options may also slightly increase or decrease the quantity, location, and height of structures ▪ Regeneration stations located at maximum spacing of 55 miles common to all segments (see ancillary facilities description in Table 4-1)
Segment 1 - Aeolus to Mona Annex — — Double Circuit or Two Single Circuit	<ul style="list-style-type: none"> ▪ One double-circuit 500kV transmission line in one right-of-way with both circuits energized at 500kV <ul style="list-style-type: none"> ○ Optional Configuration 1: Two single-circuit 500kV lines within a single right-of-way ○ Optional Configuration 2: Combination of both single-circuit parallel structures and double-circuit structures; dependant on terrain, constructability issues ▪ Two series capacitor substations would be located along this line segment ▪ Line length: approximately 400 miles
Segment 2 - Mona Annex to Sigurd	<ul style="list-style-type: none"> ▪ Single-circuit 500kV transmission line ▪ Single-circuit lattice steel structures ▪ Line length: approximately 75 miles

**TABLE 4-2
TRANSMISSION LINE DESCRIPTIONS^a**

Transmission Line Segments	Description
Segment 3 - Sigurd to Red Butte	<ul style="list-style-type: none"> ▪ Single-circuit 500kV transmission line ▪ Single-circuit lattice steel structures ▪ Line length: approximately 160 miles
Segment 4 - Red Butte to Crystal	<ul style="list-style-type: none"> ▪ Single-circuit 500kV transmission line ▪ Single-circuit lattice steel structures ▪ Line length: approximately 95 miles
Notes:	
^a Approximately 10 to15 miles (less than 1 to2% of the overall project) of 345kV transmission line and structures will need to be built to interconnect the proposed substations with the existing facilities, but further studies are needed before more definitive information can be provided.	

**TABLE 4-3
TYPICAL DIMENSIONS FOR 500kV TRANSMISSION LINE COMPONENTS^a**

Feature	Description
	500kV Lattice
Land Temporarily Disturbed	
Structure Work Area	300 x 200 feet per structure
Wire-pulling Sites	300 x 700 feet per 2 miles
Wire-tensioning Sites	300 x 700 feet per 2 miles
Wire-splicing Sites	100 x 100 feet per 2 miles
Construction Yards	Approximately one 20-acre site every 25 miles, location to be determined
Land Permanently Required	
Structure Base (area)	40 x 56 feet (tangent) 50 x 60 feet (deadend)
Right-of-way width for two parallel single-circuit lines	350 feet
Right-of-way width for double-circuit	300 feet
Right-of-way width for single-circuit	250 feet
Access Roads	
New Roads Required	Approximately 1.1 to 2.5 miles of new road per mile of transmission line where new roads are required depending on local terrain, slope, geology, etc. Existing roads will be used wherever possible.
New Spur Roads Required	Approximately 0.2 to 0.3 mile of new spur roads per mile of transmission line where new spur roads are needed.
Improve Existing Roads	Existing roads will be improved to 14 feet wide or smoothed to width of berm.
Other	
Typical Structure Heights	Single-circuit varies between 140 and 190 feet; double-circuit varies between 160 and 200 feet
Approximate distance between Structures	1,000 to 1,300 feet
Regeneration Stations	Maximum spacing of 55 miles common to all segments
Notes:	
^a The exact quantity, structure type and height, distance between and placement of the structures would depend on the final detailed design of the transmission line, which is influenced by the terrain, land use, and economics. Alignment options may also slightly increase or decrease the quantity, location, and height of structures	